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**DOSE RELATED EFFECTS OF CALCITONIN GENE-RELATED PEPTIDE ON REGIONAL LEVELS OF AMINES AND METABOLITES IN RAT BRAIN.** F.B. Jolicoeur[1] and A. Drumheller[2]. [1]Departments of Psychiatry and Pharmacology, Faculty of Medicine, University of Sherbrooke, Sherbrooke, Qc Canada J1H 5N4 and [2]Department of Psychology, Bishop's University, Lennoxville, Qc, Canada J1M 1Z7.

The purpose of this study was to investigate the effects of intracerebroventricular administration of 2 doses of a-hCGRP (0.312 and 10.0 µg) on regional levels of norepinephrine, dopamine and its metabolites DOPAC and HVA, as well as serotonin and its metabolite 5-HIAA in several regions of rat brain, including the frontal cortex, hypothalamus, amygdala, nucleus accumbens, corpus striatum, substantia nigra, ventral tegmentum and septum. Results indicate that the ICV administration of a-hCGRP in rats produces widespread changes in levels of various neurotransmitters and their metabolites 20 min after injection. The highest dose of the peptide tested, 10.0 µg, increased the levels of dopamine and it's metabolites, DOPAC and HVA in the frontal cortex, amygdala, hippocampus and the globus pallidus. In the nucleus accumbens however, DA was decreased while DOPAC and HVA were increased. Except in the striatum, norepinephrine was also increased in the above mentioned regions. The administration of the lowest dose (0.312 µg) of CGRP, a dose which in our behavioral tests produces only hyperthermia, increased DOPAC concentrations in the anterior but not posterior hypothalamus without affecting either dopamine or HVA. 10.0 µg of the peptide produced elevated levels of serotonin in the frontal cortex, hippocampus, nucleus accumbens and the globus pallidus. With the exception of the nucleus accumbens, these changes were accompanied by similar increases in the levels of 5-HIAA. Both doses of CGRP induced a significant increase in the ratio of 5-HIAA/5-HT in the amygdala. The results clearly demonstrate that a-hCGRP has widespread effects on transmitter levels in the CNS, and suggests that the peptide is involved in many neurophysiological processes. Supported by the Medical Research Council of Canada.

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**EFFECTS OF SELECTIVE AND NON-SELECTIVE CCK-RECEPTOR AGONISTS ON THE 5-HT RELEASE IN THE LATERAL PREFRONTAL CORTEX OF GUINEA-PIGS UNDER RESTING CONDITIONS AND ON EXPOSURE TO THE X-MAZE.** A. Rex. C.A. Marsden[1], H. Fink. Institute of Pharmacology and Toxicology, Humboldt University, D-10098 Berlin, Germany, [1]Department of Physiology and Pharmacology, University of Nottingham Medical School, Queen's Medical Centre, Nottingham, NG7 2UH, UK.

Exposure of guinea-pigs to the elevated plus maze (X-maze) causes an increased release of extracellular serotonin (5-HT) in the lateral prefrontal cortex monitored by microdialysis (Rex et al., 1993, Psychopharmacology 110:490-496). In the present study the effects of the CCK-B receptor agonist BOC-CCK-4, the CCK-A+B receptor agonist CCK-8s and the CCK-A receptor agonist (A-71378) on the behaviour and the 5-HT release in the prefrontal cortex were assessed. Neither BOC-CCK-4, nor A-71378, nor CCK-8s changed the behaviour of the guinea-pigs under resting conditions in the familiar home cage. 5-HT release did not change in the home cage following treatment with the CCK-receptor agonists. On exposure of the guinea-pigs to the X-maze BOC-CCK-4 induced 'anxious' behavior and potentiated the rise in 5-HT seen on exposure to the X-maze. CCK-8s, the agonist at the CCK-A and the CCK-B receptors potentiated the aversion induced increase in cortical 5-HT release, but to a lesser extent than BOC-CCK-4. A-71378, the selective CCK-A receptor agonist had no effect on the behaviour on exposure to the X-Maze, but inhibited the rise in 5-HT release seen on exposure to the X-maze.

The results suggest strongly that 'anxious' behaviour induced by CCK is associated with selective CCK-B receptor stimulation, with BOC-CCK-4 inducing 'anxiety', whereas stimulation of CCK-B and CCK-A receptors by CCK-8s, or selective CCK-A receptor activation by A-71378 did not induce anxiety like behaviour.

CCK receptors are mediating extracellular 5-HT release under aversive conditions, but not in a resting state in the familiar home cage. The results suggest a receptor-specific interaction between CCK-A and CCK-B receptors and 5-HT mechanisms.

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